

ABSTRACT

For performing a coarse frequency synchronization compensat-
5 ing for a carrier frequency deviation from an oscillator
frequency in a demodulation system capable of demodulating a
signal having a frame structure, the frame structure com-
prising at least one useful symbol and a reference symbol
which is an amplitude-modulated sequence, firstly the signal
10 is received. Thereafter, the received signal is down-
converted. Then, an amplitude-demodulation of the down-
converted signal is performed in order to generate an enve-
lope. This envelope is correlated with a predetermined ref-
erence pattern in order to determine the carrier frequency
15 deviation. Finally, the oscillator frequency is controlled
based on the carrier frequency deviation. The reference sym-
bol may comprise two identical sequences. In this case, the
envelope obtained by the amplitude-demodulation has two por-
tions which are based on the identical sequences. One of the
20 portions of the envelope is correlated with the other one of
the portions in order to determine the carrier frequency de-
viation. The oscillator frequency is controlled based on the
determined carrier frequency deviation.